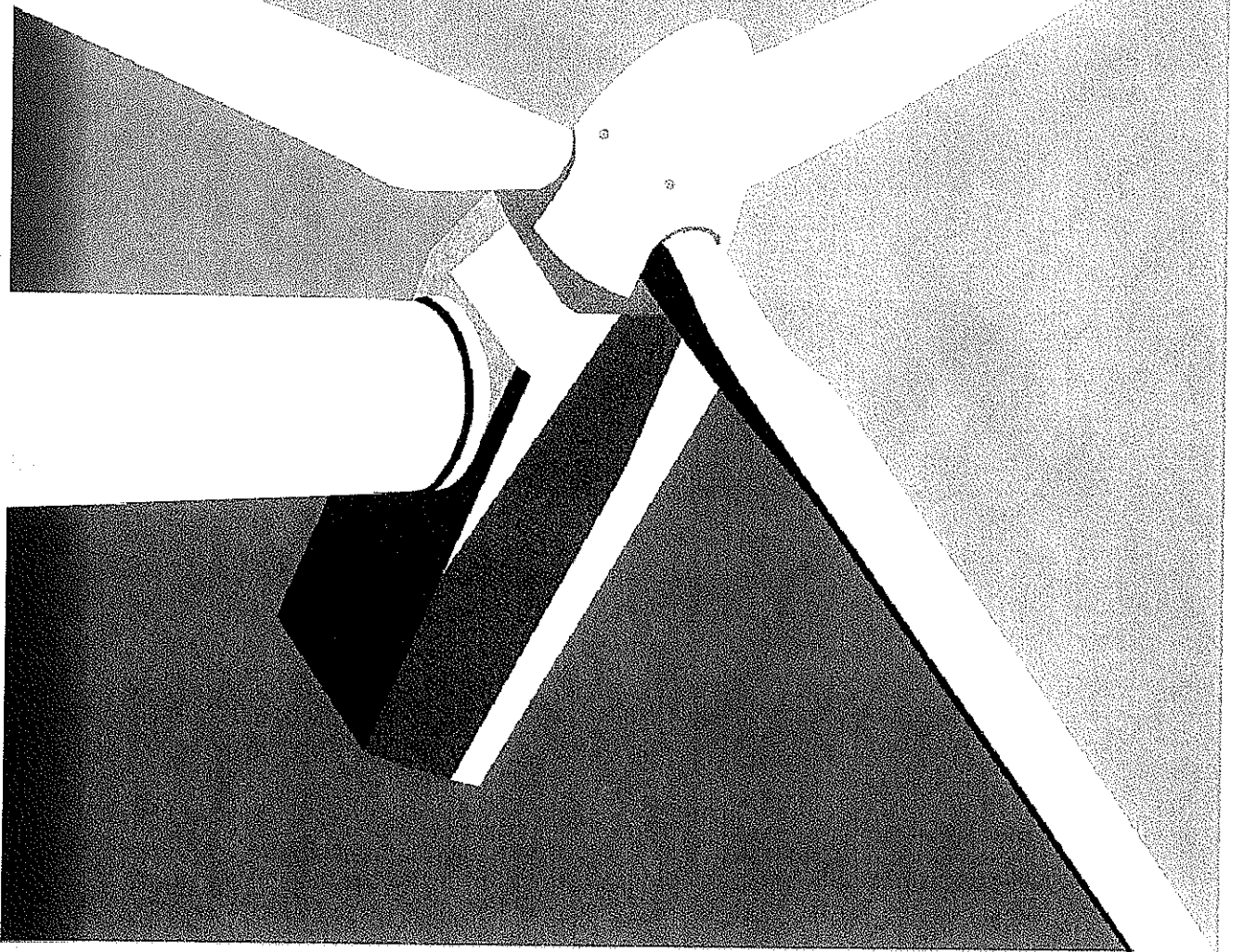


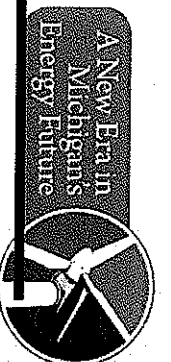
# A New Era in Michigan's Energy Future



Senate Committee on  
Energy and Technology



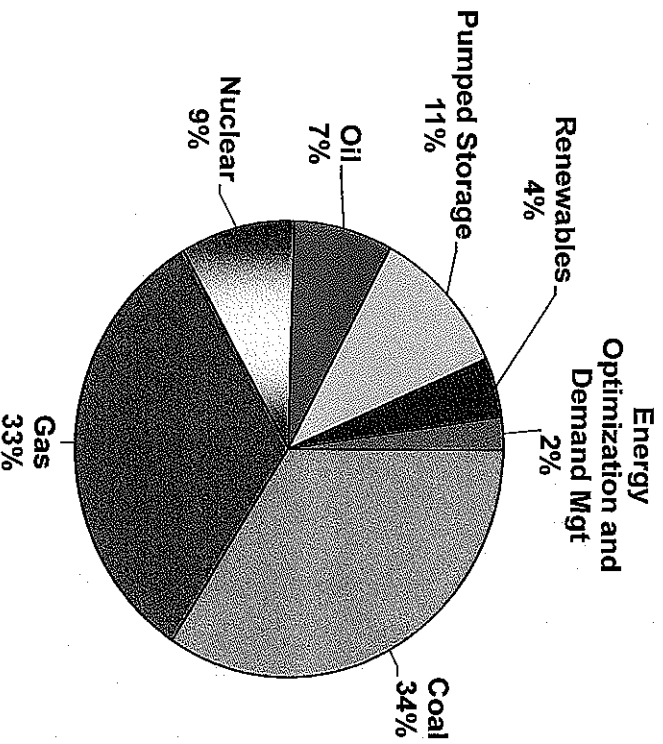
# Goals of PA 295 of 2008



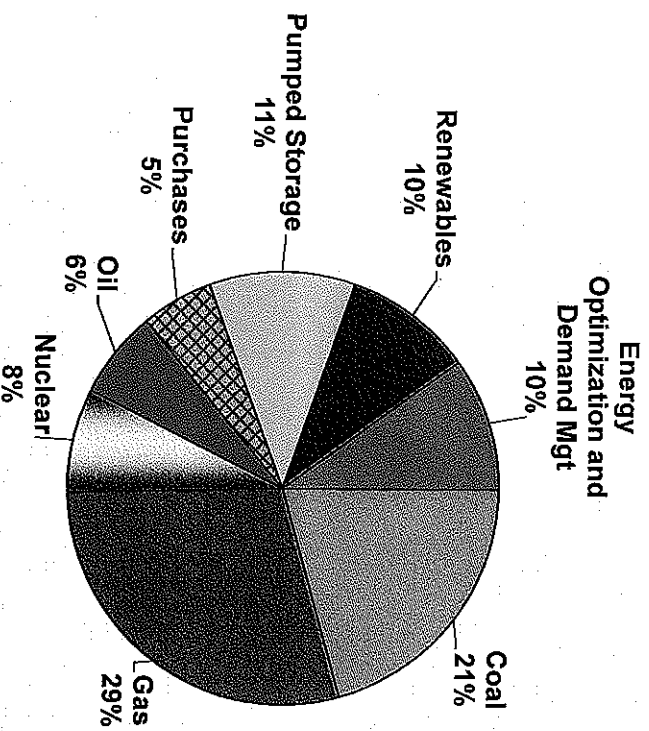
- (a) Diversify the resources used to reliably meet the energy needs of consumers in this state.
- (b) Provide greater energy security through the use of indigenous energy resources available within the state.
- (c) Encourage private investment in renewable energy and energy efficiency.

## Consumers Energy's Electric Generating Portfolio

2010



2020 Projected



A New Era in  
Michigan's  
Energy Future

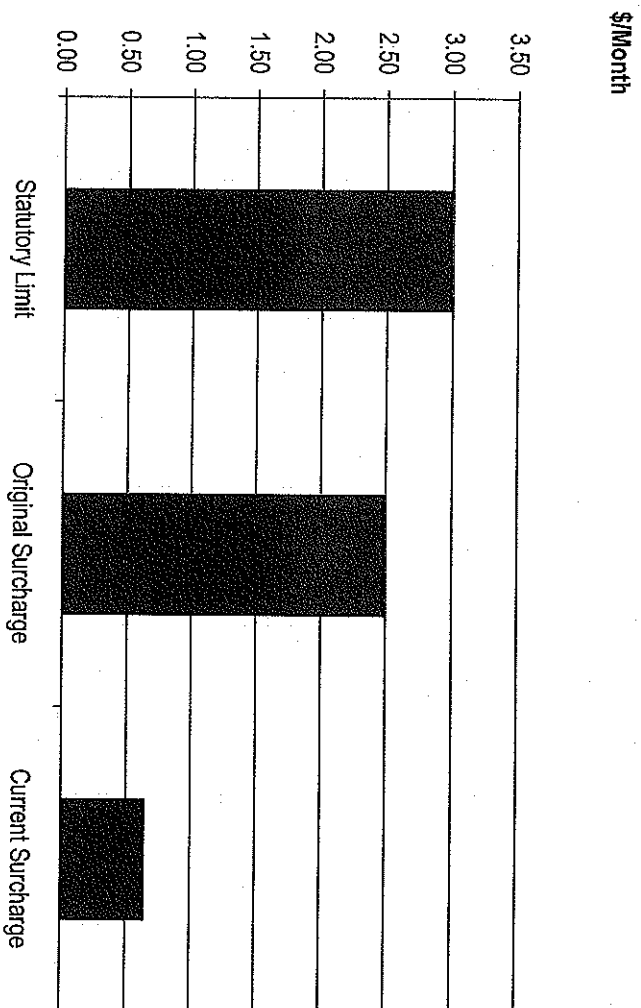
- 
- Renewable Facilities  
 ■ Proposed Company-owned Wind Facilities  
 ▲ New Power Purchase Agreements (287 MW)
- Lake Winds Energy Park**
- Cross Winds Energy Park**
- Map of Minnesota showing proposed wind facilities and power purchase agreements. The map is divided into counties, many of which are labeled. Two specific areas are highlighted: 'Lake Winds Energy Park' in the north-central region and 'Cross Winds Energy Park' in the south-central region. An inset map in the top right corner shows the state of Minnesota with a triangle indicating the location of the Lake Winds Energy Park.

- 3

# Renewable Energy Surcharges

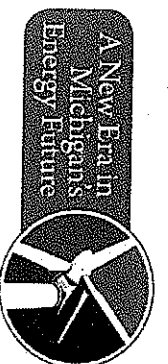


## Consumers Energy Company Residential Renewable Energy Surcharge

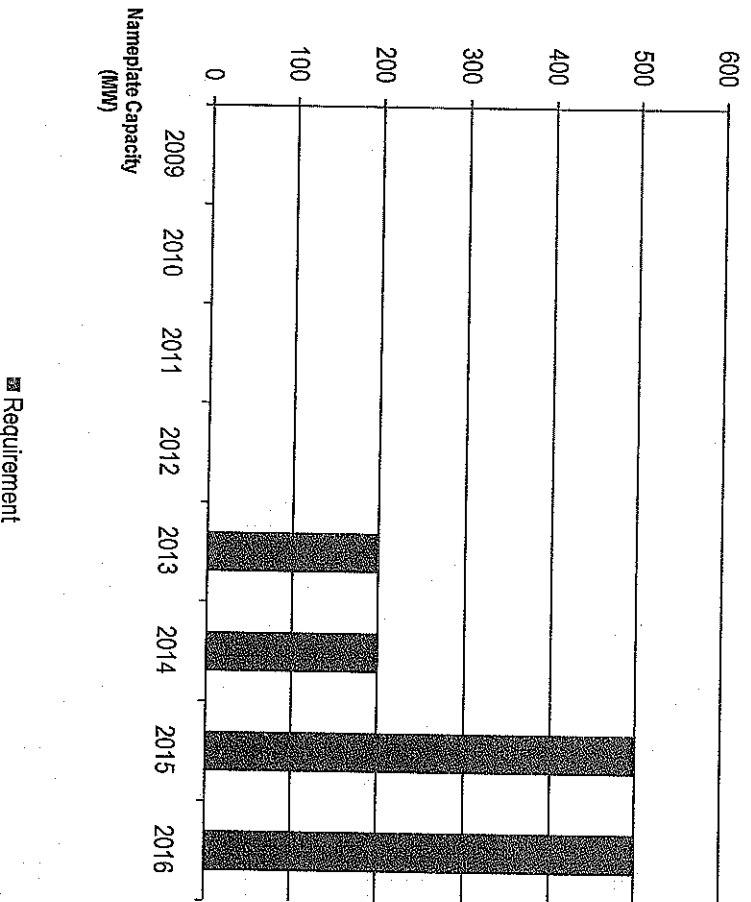


- Renewable energy surcharge reduced about \$54 million annually

# Renewable Energy Requirements

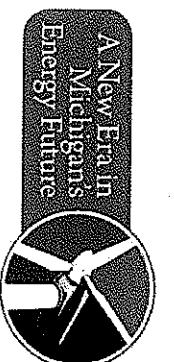


## Consumers Energy Company New Renewable Capacity

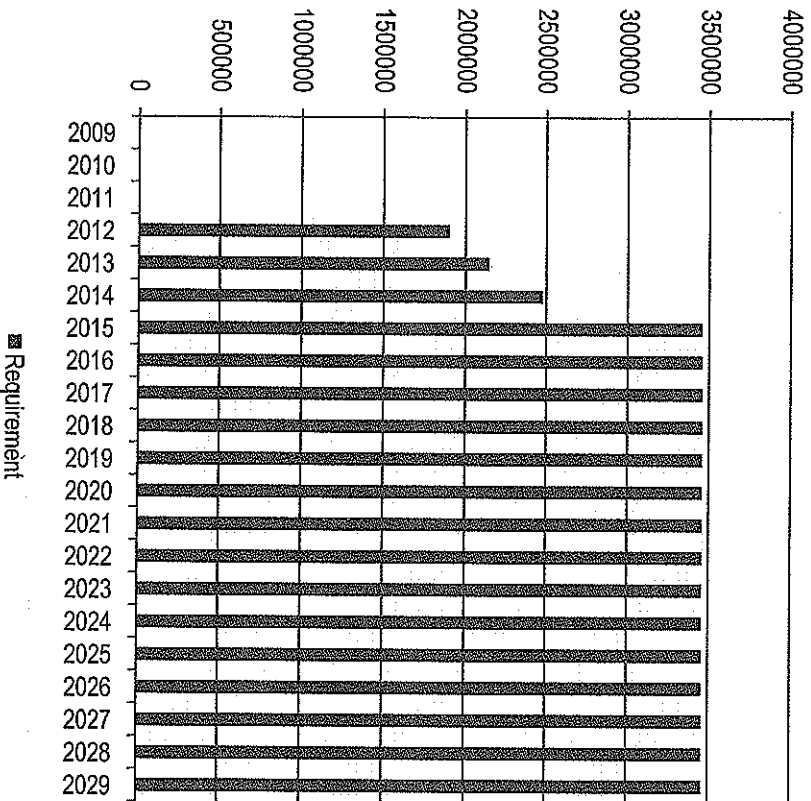


- **New Capacity**
  - By December 31, 2013 – 200 MW
  - By December 31, 2015 – 500 MW
- In addition to 429 MW of existing contracted and owned renewable capacity at 49 facilities.
  - Biomass
  - Hydro
  - Landfill Gas
  - Wind

# Renewable Energy Requirement

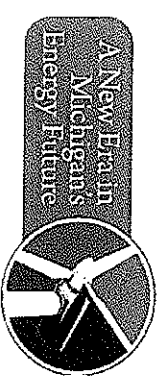


## Consumers Energy Company Renewable Energy Credits



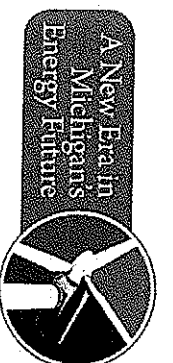
- **Energy (RECS)**
  - 2012 – Baseline plus 20%
  - 2013 – Baseline plus 33%
  - 2014 – Baseline plus 50%
  - 2015 – 10% of Sales
- **Renewable Energy Credit**
  - 1 per MWh generated
- **Incentive RECs**
  - On Peak – 0.2/MWh
  - Storage – 0.2/MWh
  - Michigan Material – 0.1/MWh
  - Michigan Labor – 0.1/MWh
  - Solar – 2.0/MWh
- **Substitutions**
  - Advanced Cleaner Energy Credits
  - Energy Optimization Credits

# ***New Purchased Resources***

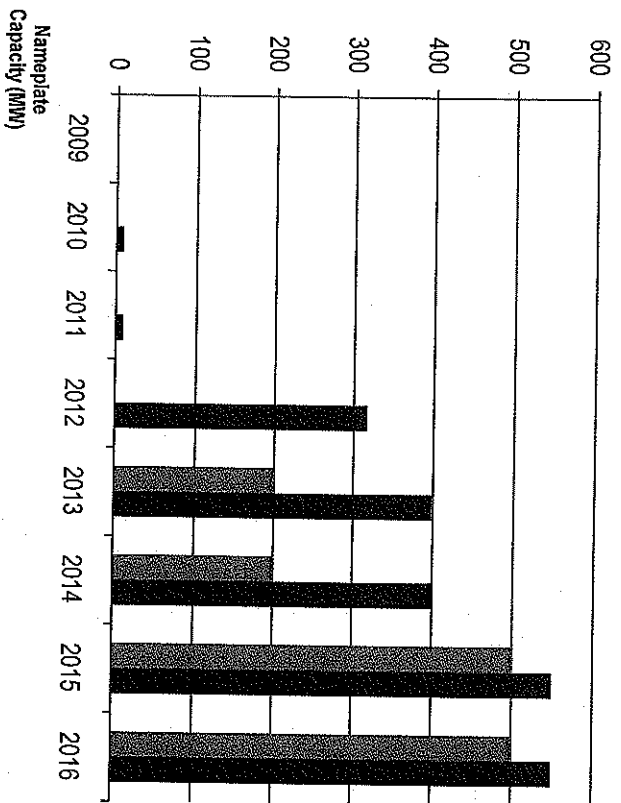


- **Competitively Bid Projects**
  - Up to 20 Year Contracts
- **Mix of Resources**
  - Wind – 5 Projects – 271 MW
  - Landfill Gas – 4 Projects – 15 MW
  - Anaerobic Digestion – 3 Projects – 4 MW
  - Hydro – 1 Project – 1 MW
- **Experimental Advanced Renewable Pilot Program-multiple phases – 5 MW**

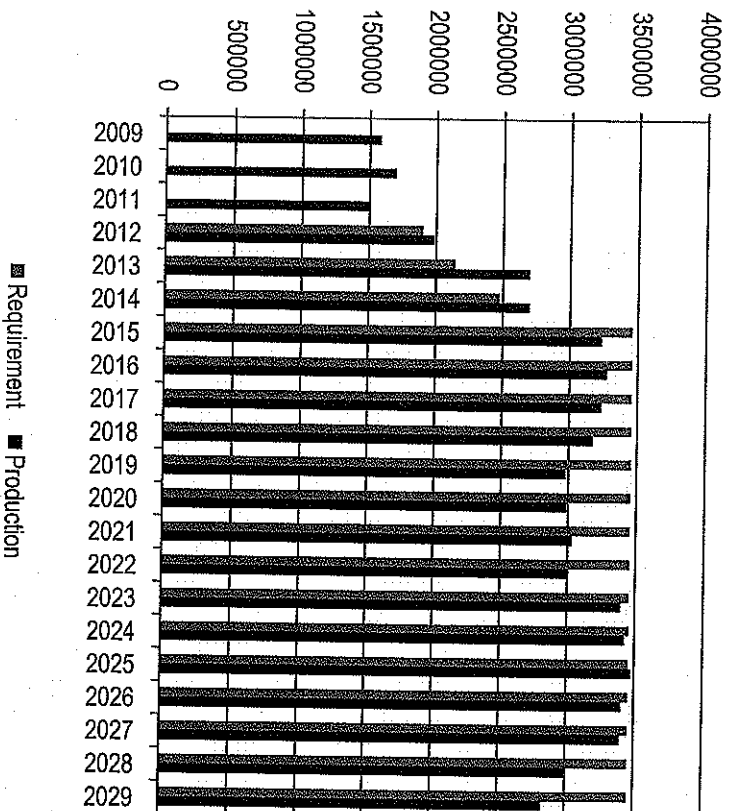
# Renewable Energy Plan



## Consumers Energy Company New Renewable Capacity



## Consumers Energy Company Renewable Energy Credits





# Wind Farm Sites: Location and Schedule

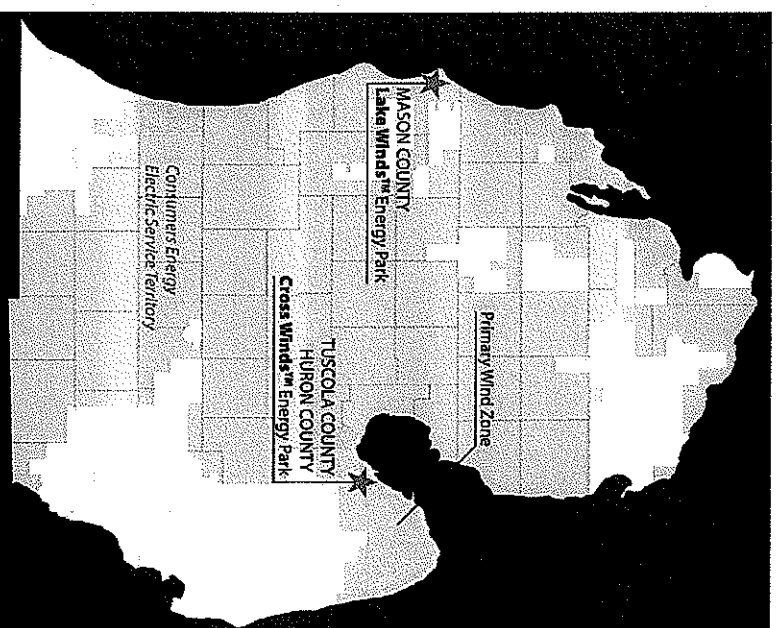


## • What determined location?

- Adequate wind: 15 mph or greater average speed
- Close to current or future transmission
- Minimal environmental impacts
- Favorable zoning
- Supportive Communities

### Legend

- Primary wind zone (as determined by Wind Energy Resource Zone Board)
- Consumers Energy Electric Service Territory

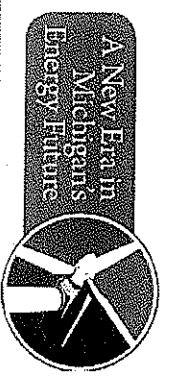


Wind Farm Development	2012	2013	2014	2015	2020	2021	2022
Lake Windz Operational	Cross Windz Phase 1 Construction Begins	150 MW Cross Windz Phase 1 Operational	Renewable Energy Standard Deadline	Cross Windz Phase 2 Turbine Contract	Cross Windz Phase 2 Construction Begins	100 MW Cross Windz Phase 2 Operational	
Cross Windz Phase 1 Turbine Contract							

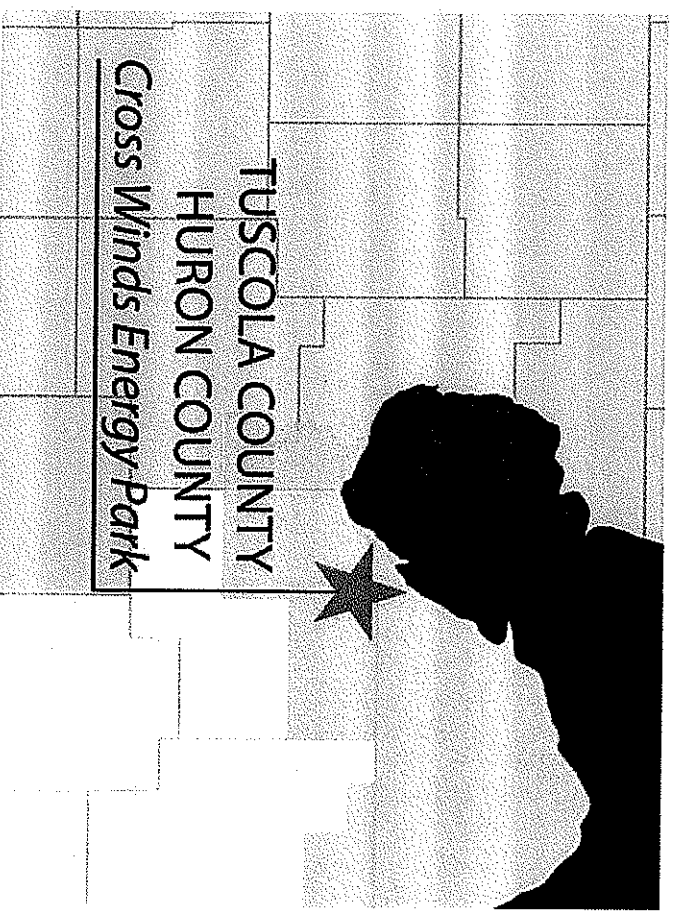
A New Era in  
Michigan's  
Energy Future

- 
- Consumer Energy**
- LAKE WILCOX PROPERTY SALES**
- ① PROPOSED WIND ENERGY ZONING  
 ② ALTERNATE WIND TURBINE LOCATION  
 ③ WATER MAIN/SEWER DISTRIBUTION  
 ■ PROJECT BOUNDARY
- Map showing Lake Wilcox Property Sales. The map includes a legend for "PROPOSED WIND ENERGY ZONING" (indicated by a circle with a dot), "ALTERNATE WIND TURBINE LOCATION" (indicated by a circle with a cross), "WATER MAIN/SEWER DISTRIBUTION" (indicated by a line), and "PROJECT BOUNDARY" (indicated by a thick line). The map shows various roads including Lakeshore Dr, LeSalle Rd, Appleton Rd, and others. The lake is labeled "LAKE WILCOX".

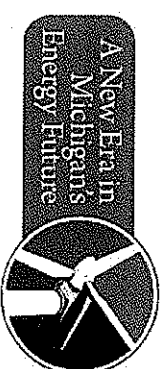
# ***TUSCOLA COUNTY GROSS WINDS™ Energy Park***



- Covers 154 square miles
- Over 58,000 acres under easement
- Development Plan
  - Phase 1-150 MW-2014
  - Phase 2-100 MW-2022
- 5 operating met towers
- Transmission system upgrades required
- Steps to complete include:
  - Permitting
  - Development studies
  - Wind Turbine purchase
  - Construction contractor selection

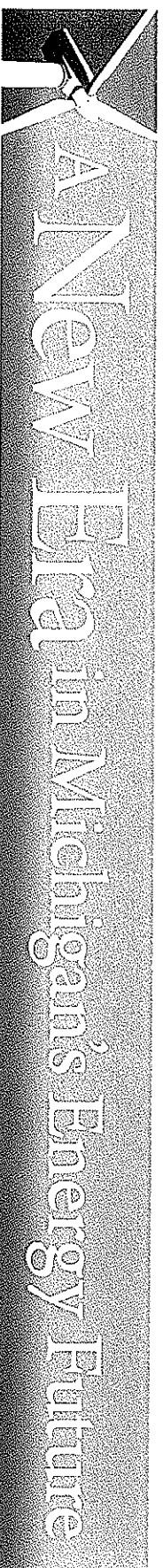


# ***Meeting the Renewable Energy Standard***



- Consumers Energy plans to build-buy about 650 MW
- About \$1.4 billion investment over next five years, primarily wind
- Renewable Energy surcharge reduced about \$55 million annually
- Renewable Energy investment creating jobs and new local tax base

[www.consumersenergy.com/newgeneration](http://www.consumersenergy.com/newgeneration)



# A New Era in Michigan's Energy Future



## Questions

